

# NEW UTILITY PATENT APPLICATION TRANSMITTAL (Small Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.  
W/C-367552

Total Pages in this Submission

30

## TO THE ASSISTANT COMMISSIONER FOR PATENTS

Box Patent Application  
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

A vertical Vortex or laminar flow interactive Bio Media Water Treatment Device

and invented by:

Terry J. Cullinan, Missoula, Montana  
Max V. Weiss, Polson, Montana as Co-inventors

If a CONTINUATION APPLICATION, check appropriate box and supply the requisite information:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Enclosed are:

### Application Elements

1. ☒ Filing fee as calculated and transmitted as described below
2. ☒ Specification having \_\_\_\_\_ pages and including the following:
  - a. ☒ Descriptive Title of the Invention
  - b. ☒ Cross References to Related Applications (if applicable)
  - c. ☒ Statement Regarding Federally-sponsored Research/Development (if applicable)
  - d. ☐ Reference to Microfiche Appendix (if applicable)
  - e. ☒ Background of the Invention
  - f. ☒ Brief Summary of the Invention
  - g. ☒ Brief Description of the Drawings (if drawings filed)
  - h. ☐ Detailed Description
  - i. ☒ Claim(s) as Classified Below
  - j. ☐ Abstract of the Disclosure
3. ☒ Drawing(s) (when necessary as prescribed by 35 USC 113)
  - a. ☒ Formal
  - b. ☐ Informal

Number of Sheets 7

# NEW UTILITY PATENT APPLICATION TRANSMITTAL (Small Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

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## Application Elements (Continued)

4. ☒ Oath or Declaration
- a. ☒ Newly executed (*original or copy*)      ☐ Unexecuted
- b. ☐ Copy from a prior application (37 CFR 1.63(d)) (*for continuation/divisional application only*)
- c. ☐ With Power of Attorney      ☐ Without Power of Attorney
5. ☒ Incorporation By Reference (*usable if Box 4b is checked*)  
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
6. ☐ Computer Program in Microfiche
7. ☐ Genetic Sequence Submission (*if applicable, all must be included*)
- a. ☐ Paper Copy
- b. ☐ Computer Readable Copy
- c. ☐ Statement Verifying Identical Paper and Computer Readable Copy

## Accompanying Application Parts

8. ☐ Assignment Papers (*cover sheet & documents*)
9. ☒ 37 CFR(B) Statement (*when there is an assignee*)
10. ☐ English Translation Document (*if applicable*)
11. ☐ Information Disclosure Statement/PTO-1449      ☐ Copies of IDS Citations
12. ☐ Preliminary Amendment
13. ☐ Acknowledgment postcard
14. ☒ Certificate of Mailing  
☐ First Class      ☒ Express Mail (*Specify Label No.*): \_\_\_\_\_
15. ☐ Certified Copy of Priority Document(s) (*if foreign priority is claimed*)
16. ☒ Small Entity Statement(s) - Specify Number of Statements Submitted: \_\_\_\_\_

**PATENT APPLICATION TRANSMITTAL LETTER**  
(Small Entity)

Docket No.  
W/C - 367552

TO THE ASSISTANT COMMISSIONER FOR PATENTS

Transmitted herewith for filing under 35 U.S.C. 111 and 37 C.F.R. 1.53 is the patent application of:

Terry James Cullinan, Co-inventor  
Max Von Weiss, Co-inventor

For: Bio Septic Systems LLC  
P.O. Box 2725, Missoula, MT 59806

Enclosed are:

- ☐ Certificate of Mailing with Express Mail Mailing Label No. *Fed Express 5289109545*
- ☒ (7) seven sheets of drawings.
- ☐ A certified copy of a \_\_\_\_\_ application.
- ☒ Declaration ☐ Signed. ☐ Unsigned.
- ☐ Power of Attorney
- ☒ Information Disclosure Statement
- ☐ Preliminary Amendment
- ☒ Verified Statement(s) to Establish Small Entity Status Under 37 C.F.R. 1.9 and 1.27.
- ☐ Other:

**CLAIMS AS FILED**

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	9	- 20 =	0	x \$11.00	\$0.00
Indep. Claims		- 3 =	0	x \$41.00	\$0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$395.00
TOTAL FILING FEE					\$395.00

- ☒ A check in the amount of \$395.00 to cover the filing fee is enclosed.
- ☐ The Commissioner is hereby authorized to charge and credit Deposit Account No. \_\_\_\_\_ as described below. A duplicate copy of this sheet is enclosed.
- ☐ Charge the amount of \_\_\_\_\_ as filing fee.
- ☐ Credit any overpayment.
- ☐ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
- ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated:

3/12/98

*Terry James Cullinan*  
Signature

cc:

March 4, 1998

Patent and Trademark Office  
Washington, D.C. 20231

RE: Application No. 60\040,690  
Docket No. W\C367552  
Our File No. 7015

Dear Patent Office:

This letter is submitted with the enclosed New Utility Patent Application Transmittal, to explain why the signatures of co-inventor, Max V. Weiss, are not on this application at this time. On March 3, 1998, Mr. Weiss caused to be delivered a proposed Patent Application with the request of Mr. Cullinan's signature as co-inventor. A review of this proposed Application revealed many deficiencies, including but not limited to: out-of-date forms, insufficient filing fee amount, and incomplete supporting documents. Mr. Cullinan sought the limited assistance which was then available to correct the deficiencies and create the now enclosed New Utility Patent Application Transmittal. Mr. Weiss failed to respond to repeated requests for assistance in the necessary corrections. To meet the filing deadline of March 13, 1998, Mr. Cullinan prepared the enclosed Application and supporting documents, and retains the co-inventor status of Mr. Weiss. Upon further review, a continuing in-part application may be submitted.

The lack of cooperation from Mr. Weiss may be attributed to an on-going dispute between these co-inventors, as well as the lawsuit they have filed against each other in State Court. See; Copy of Summons attached.

Very truly yours,



Terry J. Cullinan  
P.O. Box 2725  
Missoula, MT 59806

Co-Applicant/Inventor

TJC\rhc:7015L16

09041685-031398

PROVISIONAL APPLICATION  
FILING RECEIPTUNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS
60/040,690	03/13/97	\$75.00	W/C-367552	6

MAX V WEISS  
415 NORTH HIGGINS AVENUE  
MISSOULA MT 59802

Receipt is acknowledged of this Provisional Application. This Provisional Application will not be examined for patentability. Be sure to provide the PROVISIONAL APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to Box Provisional Application within 10 days of receipt. Please provide a copy of the Provisional Application Filing Receipt with the changes noted thereon. This Provisional Application will automatically be abandoned twelve (12) months after its filing date and will not be subject to revival to restore it to pending status beyond a date which is after twelve (12) months from its filing date.

Applicant(s) MAX V. WEISS, MISSOULA, MT; TERRY J. CULLINAN, MISSOULA, MT.

FOREIGN FILING LICENSE GRANTED 06/13/97

\* SMALL ENTITY \*

TITLE

VERTICAL VORTEX OR LAMINAR FLOW INTERACTIVE BIOMEDIA PRETREATMENT  
DEVICE

03/13/97 03:41:50

# PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (b)(2).

Doclet Number		W/C 367552		Type a plus sign (+) inside this box →	+
INVENTOR(s)/APPLICANT(s)					
LAST NAME	FIRST NAME	MIDDLE NAME/INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)		
WEISS	MAX	V	415 NORTH HIGGINS AVE. MISSOULA, MT. 59802		
CULLINAN	TERRY	J	415 NORTH HIGGINS AVE. MISSOULA, MT. 59802		
TITLE OF THE INVENTION (250 characters max)					
VERTICAL VORTEX OR LAMINAR FLOW INTERACTIVE BIOMEDIA PRETREATMENT DEVICE					
CORRESPONDENCE ADDRESS (including country if not United States)					
415 NORTH HIGGINS AVE, MISSOULA, MONTANA 59802					
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification	Number of Pages	1	<input checked="" type="checkbox"/> Small Entity Statement		
<input checked="" type="checkbox"/> Drawing(s)	Number of Sheets	3 b	<input type="checkbox"/> Other (specify)		
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)					
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees				FILING FEE AMOUNT (\$)	\$75.00
<input type="checkbox"/> The Commissioner is hereby authorized to charge filing fees and credit Deposit Account Number:					

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.

☐ Yes, the name of the U.S. Government agency and the Government contract number are:

Respectfully submitted,

SIGNATURE

*Max Weiss*

Date

3/5/97

TYPED or PRINTED NAME

MAX WEISS

REGISTRATION NO.

(if appropriate)



Additional inventors are being named on separately numbered sheets attached hereto

## USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, DC 20231.

03041605-031390

**BIO-SEPTIC****SYSTEMS**

INNOVATIONS IN WATER TREATMENT

DISCLOSURE DOCUMENT NO.

367552

FILING FEE: \$10.00

RETAINED FOR 2 YEARS

THIS IS NOT A PATENT APPLICATION

415 NORTH HIGGINS AVENUE MISSOULA, MONTANA 59802 • PHONE: (406) 721-3000 EXT. 1190 / FAX: (406) 721-5912

DISCLOSURE OF INVENTIONTITLE: A Bio-reactive Grease and Oil SeparatorPROBLEM SOLVED BY INVENTION:

Food service establishments and industrial processing facilities generate grease, oil, sugars, starches and other contaminants in their wastewater. Grease and oil are major contributors to blockages and backups in drains and mains, unpleasant odors, costly pumping of interceptor tanks and in extreme cases, excavation of mains, drains and tanks.

Current treatment systems have shortcomings related to incomplete separation and retention. Current treatment systems concentrate mainly on separation and do not address the subsequent problem of disposal of the separated substances.

The suggested invention addresses the complete problem presented by objectionable substances through the application of fluid mechanics and bio-technology.

DESCRIPTION OF THE INVENTION:

The proposed invention consists of a superpermeable interactive membrane (see attached diagram) which as a result of its unique geometric configuration, produces a predictable fluid flow conducive to the release of suspended materials and the transportation of the substances to a companion geometric configuration designed to maximize surface area, regulate laminar flow within vertical surfaces to encourage the development of and maximize the production of a live biofilm and to maintain a beneficial environment for bio-oxidation. The membrane/substrate/containment may be configured to a multitude of applications appropriate to each treatment task. The application depicted (see diagram) is intended for greywater remediation. While the preferred application of the elements of the suggested invention are interactive, each element may be applied to fluid treatment independently.

VERIFICATION OF INVENTION:

Mat Weiss  
415 N. Higgins Ave  
Missoula, MT. 59802  
For: Bio-Septic Systems  
Inventor

Ferry J. Cullman  
Box 2725  
Missla, MT 59806  
For: Bio-Septic Systems  
Inventor

STATE OF MONTANA, County of Missoula;

On this 21 day of December, 1994, before me, the undersigned Notary Public personally appeared the above named persons who are known to be the persons whose names are subscribed to the foregoing DISCLOSURE OF INVENTION and who acknowledged to me that they executed the same and if signed on behalf of a corporation, personally known to me to be the officers of said corporation as stated and acknowledged to me that such corporation executed the same.

Notary Public for the State of Montana  
Residing at St. Peter & Warren, PC  
My Commission expires: 12/31/95

RECEIVED - 58914060